



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/513,129 02/25/00 YAMAMOTO

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005514 MMC2/1220
FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK NY 10112

EXAMINER

VOL. I

ART UNIT

PAPER NUMBER

2821

DATE MAILED:

12/20/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/513,129

Applicant(s)

YAMAMOTO ET AL.

Examiner

Tuyet Vo

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☒ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.

- 17) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other: _____

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DETAILED ACTION

Oath/Declaration

The declaration filed February 25, 2000 has been found acceptable

Drawings

The drawings filed February 25, 2000 are acceptable.

Specification

- 1. Page 8, lines 26, reference numeral 33 should be corrected to reference numeral 3.**

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

- 2. The following is a quotation of the second paragraph of 35 U.S.C. 112:**

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

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Claim 1, lines 2 and 3, a phrase "conductors disposed on a substrate in opposed relationship with each other" is not clear in term of what relationship conductors do refer. Are conductors deposited in an opposite direction? Correction is required.

Claim 2, lines 2 and 3, suffers the same defective claim 1. Any correction alleviated claim 1 should carry to the claim 2 as well.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Iwasaki et al. (US Pat. 6,147,449), hereinafter Iwasaki in view of Tomida et al. (US Pat. 5,716,618), hereinafter Tomida.

Like claimed invention, Iwasaki discloses an electron-emitting device (Fig. 1) having a pair of electric conductors disposed on a substrate (1), and a piled films (6) composed chiefly of carbon (col. 21, lines 35-67) and connected to the pair of electric conductors (4) and disposed with a gap interposed therebetween (5), wherein an electron source characterized by the provision of a plurality of electron-emitting devices deposited on the substrate and wiring connected to the electron-emitting devices (Fig. 5) and an image forming member for effecting image formation by electron emitted (See Abstract and col. 2, lines 28-67).

However, Iwasaki does not disclose piled films containing one or more element group of lithium, potassium, sodium, calcium, strontium and barium within the range of 1 mol% to 5 mol% in terms of the percentage to carbon.

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Tomida disclose an electron-emitting device (Fig. 3) having a solution, for forming electron-emitting region forming thin films of conductive surface, composed chiefly of carbon and potassium (col. 4, lines 15-67 and col. 5, lines 1-45).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the solution for forming thin films taught by Tomida into Iwasaki electron-emitting device in order improve image performance of the electron-emitting device by reducing a gap resistance therebetween electrodes.

Citation of pertinent prior art

6. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Kaneko et al.(US Pat. 5,831,387) disclose image forming apparatus and a method for manufacturing the same.

Ono et al.(US Pat. 5,674,100) disclose method of manufacturing electron-emitting device.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyet Vo whose telephone number is 703 306 5497. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 703 308 4856. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308 7722 for regular communications and 703 308 7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

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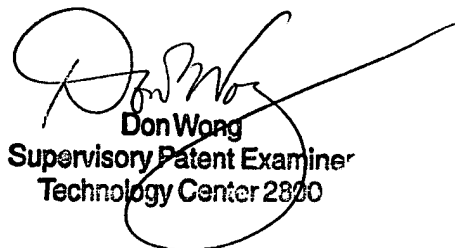
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Tuyet Vo

December 18, 2000



Don Wong
Supervisory Patent Examiner
Technology Center 2820

#27
Muen
4/15/03

In re Application of:

Examiner: T. Vo

Group Art Unit: 2821

For: ELECTRON-EMITTING DEVICE,)
ELECTRON SOURCE USING :
THE SAME, AND IMAGE)
FORMING APPARATUS USING :
THE SAME)

April 3, 2003

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed Form PTO-1449. Copies of the listed documents are also enclosed.

04/10/2003 HLE333 00000018 09513129

180.00 DP

We also enclose a check for the required fee of \$180.00 to cover the Information Disclosure Statement under 37 C.F.R. 1.97(c)(2).

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

Peter G. Thelen
Attorney for Applicants

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